

Please add the following new claims:

--16. A method of manufacturing a semiconductor device in which there are at least two types of transistors on a semiconductor substrate, comprising the steps of:

- (a) forming said first type of transistor in a first region of said device;
- (b) forming said second type of transistor in a second region of said device; and
- (c) forming a control electrode, which includes an impurity and nitrogen, in each of said first and second transistors;
- (d) masking said first type of transistor, and
- (e) introducing nitrogen into said control electrode of only said second type of transistor.

17. The method of manufacturing a semiconductor device of claim 16, comprising:

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- (f) forming at least three types of transistors in respective first second and third regions of said device;
 - (g) forming a control electrode, which includes an impurity and nitrogen, in each of said first, second and third transistors;
- in step (e), introducing nitrogen into control electrodes of only said second and third transistors;

(h) masking said first and second transistors; and

(i) introducing nitrogen into only said control electrode of said third transistor.

18. The method of manufacturing a semiconductor device of claim 17, comprising:

- Rule C3*
- (j) implanting nitrogen of doses n_1 , n_2 , and n_3 into said control electrodes of said first, second and third electrodes, respectively, where $n_1 < n_2 < n_3$.

19. A method of manufacturing a semiconductor device having first and second transistors on a main surface of a semiconductor substrate of a first conductivity type, comprising the steps of:

(a) forming an isolation film on said main surface of said semiconductor substrate for isolating said first and said second transistors;

(b) forming a gate insulation film of said first and said second transistors on said main surface of said semiconductor substrate;

(c) forming first and second control electrodes on said gate insulation film of said first and said second transistors, said first control electrode including an impurity of a second conductivity type and nitrogen of a first concentration, and said second control electrode including nitrogen of a second concentration different from said first concentration; and

(d) forming first and second source/drain regions on said main surface of said semiconductor substrate, respectively, at regions where said first and said second transistors are formed.

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used*
20. The method of manufacturing a semiconductor device according to claim 19, wherein

said step (b) includes a step of

(b-1) forming a first insulation film on said main surface of said semiconductor substrate, at regions where said first and said second transistors are formed,

said step (c) includes the steps of:

(c-1) forming a polysilicon layer including an impurity of the second conductivity type on a surface of said first insulation film; and

(c-2) patterning said polysilicon layer.

21. The method of manufacturing a semiconductor device according to claim 20, wherein

said step (c-1) comprises the steps of:

introducing nitrogen into said polysilicon layer, at regions where said first and said second transistors are formed; and

masking over a surface at a region where said first transistor is formed, and introducing nitrogen further into said polysilicon layer, at a region where said second transistor is formed.

22. The method of manufacturing a semiconductor device according to claim 21, further comprising the step of

forming a capacitor which is connected to one of said second source/drain regions, after said step (d).

23. The method of manufacturing a semiconductor device according to claim 19, further comprising a third transistor on said main surface of said semiconductor substrate, wherein

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said step (a) comprises a step of

forming said isolation film so as to isolate said first to third transistors,

said method, after said step (a) and before the step of forming said first insulation film, further comprising the steps of:

forming a second insulation film at a region where said third transistor is formed;

forming a conductive layer on a surface of said second insulation film;

and

forming a third insulation film on a surface of said conductive layer,

wherein

said step (c-1) includes the steps of:

forming said polysilicon layer also on a surface of said third insulation film, said polysilicon layer serving as a third control electrode and including an impurity of said second conductivity type;

introducing nitrogen into said polysilicon layer, at regions where said first to third transistors are formed, and

masking over a surface at a region where said first and third transistors are formed, and introducing nitrogen further into said polysilicon layer, at a region where said second transistor is formed, and

said step (c-2) comprises a step of

patterning said third insulation film, said conductive layer and said polysilicon layer.

24. The method of manufacturing a semiconductor device according to claim 19, wherein

said step (b) includes a step of

(b-1) forming a first insulation film on said main surface of said semiconductor substrate, at regions where said first and said second transistors are formed,

said step (c) includes the steps of:

(c-1) forming a polysilicon layer which does not include an impurity on a surface of said first insulation film;

(c-2) introducing an impurity of said second conductivity type into said polysilicon layer to thereby form a doped polysilicon layer; and

(c-3) patterning said doped polysilicon layer.

25. The method of manufacturing a semiconductor device according to claim 24 further comprising, prior to said step (c-3), the steps of:

introducing nitrogen into said doped polysilicon layer, at regions where said first and said second transistors are formed; and

masking over a surface at a region where said first transistor is formed, and introducing nitrogen further into said doped polysilicon layer, at a region where said second transistor is formed.

26. The method of manufacturing a semiconductor device according to claim 25, further comprising a step of

forming a capacitor which is connected to one of said second source/drain regions, after step (d).

27. The method of manufacturing a semiconductor device according to claim 24, further comprising a third transistor on said main surface of said semiconductor substrate, where

said step (a) comprises a step of

forming said insulation film to isolate said first to third transistors,

said method, after said step (a) and before the step of forming said first insulation film, further comprising the steps of:

forming a second insulation film at a region where said third transistor is formed;

forming a conductive layer on a surface of said second insulation film; and

forming a third insulation layer on said main surface of said semiconductor substrate,

wherein

said step (c-1) includes the steps of:

forming said polysilicon layer serving as a third control electrode also on a surface of said third insulation film,

said step (c-2) comprises a step of

introducing an impurity of said second conductivity type into regions where said first to third transistors are formed,

said method further comprises, prior to said step (c-3), the steps of:

introducing nitrogen into said doped polysilicon layer, at the regions where said first to third transistors are formed; and

masking over a surface at a region where said first and said third transistors are formed, and introducing nitrogen further into said polysilicon layer, at a region where said second transistor is formed, and